

- residual limb care, fit awareness, and gait training on a variety of surfaces.
- an adaptive sports program including a multi-phased running program, swimming, snow skiing, water skiing, track and field, basketball, volleyball, fencing, archery, shooting, golf, kayaking and scuba diving.

### Specialized Equipment

On the third floor, there is a treadwall and a 21 foot climbing tower with auto-belay to promote strengthening, agility, and aerobic conditioning.

In the natatorium there is a six lane pool for pre-running activities, kayaking, water basketball and volleyball, and general swimming. The Flowrider®, a unique indoor activity adjacent to the pool, is used to improve balance, coordination, strength, motivation, and confidence.

### **CASE MANAGEMENT**

A full-time case manager is assigned to each patient in the Center for the Intrepid. These professionals work closely with the patients, their families, and the entire staff of the Center for the Intrepid to:

- coordinate the development of a customized, multidisciplinary team plan of care.
- monitor the plan of care to report any problems to the appropriate team member(s)
- seek solutions to improve the delivery of care and Patient Outcomes
- identify and assist with all needs of the patient and the family

- function as the initial point of contact for multiple referrals utilized to augment care at BAMC

### **BEHAVIORAL MEDICINE**

The ultimate goal for the Center for the Intrepid Behavioral Medicine Service is to enable patients to maximize their potential for emotional, mental, spiritual, and physical recovery. Behavioral Medicine provides:

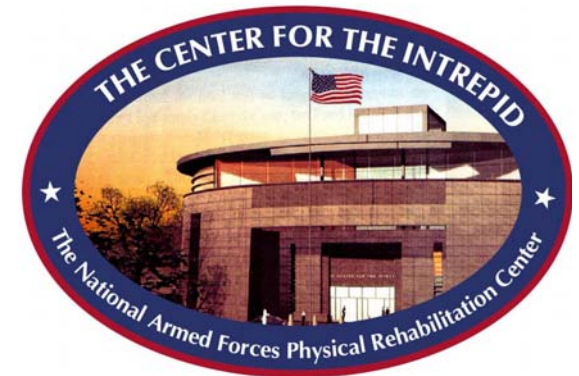
- comprehensive psychiatric support services to amputees and their families from inpatient through convalescence and rehabilitation
- individual therapy, support group meetings, medication management, family support group, and cognitive assessment
- treatment facilitation for all behavioral health needs

### **PROSTHETICS**

The prosthetists and technicians in the CFI utilize a team approach to provide state-of-the-art on-site fabrication of artificial limbs. Standard production methods are augmented by:

- computer assisted technology for design, milling, and production of prosthetic devices
- wireless technology for remote adjustment of upper and lower extremity prostheses
- design and fabrication of unique specialty limbs for sports and other activities
- high-tech materials in combinations of acrylic resins, carbon fiber composites and titanium

# **Center for the Intrepid**



**THE CENTER FOR THE INTREPID WAS DONATED BY OVER 600,000 AMERICANS. THEIR GENEROSITY EXPRESSES THE PROFOUND APPRECIATION AMERICAN HAS FOR ITS GALLANT SERVICEMEN AND WOMEN WHO DEFEND FREEDOM. THIS CENTER IS DEDICATED TO OUR SEVERELY WOUNDED MILITARY HEROES WHOSE SELFLESS SACRIFICES FOR OUR NATION ENTITLE THEM TO THE BEST REHABILITATIVE CARE.**

This four-story 65,000 square foot facility includes clinical, research, and administrative space, a gait lab, a computer assisted rehabilitation environment, a pool, an indoor running track, a two-story climbing wall, and a prosthetic fabrication lab. The CFI will provide service members with severe extremity injuries, burns, and amputations the opportunity to maximize their ability to live and work productively.

**BROOKE ARMY MEDICAL CENTER**

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## MEDICAL DIRECTION

The medical care carried out in the Center for the Intrepid is under the direction of the Physical Medicine Service at BAMC. The Physiatrists work closely with the Orthopaedic Surgeons and other physicians to coordinate all care.

## MILITARY PERFORMANCE LAB

The Military Performance Lab (MPL) seeks to analyze human motion, with particular emphasis on amputee gait (walking). The information collected in the military performance lab is ultimately used to help physicians, physical therapists, and prosthetists adjust their treatment plans and improve patient function.

### Computer Assisted Rehabilitation Environment (CAREN)

The CAREN is a 21 foot dome with a 300 degree screen upon which a variety of “virtual realities” may be displayed. This simulator is the first of its kind in the world, and holds much promise for the rehabilitation of the patients at the CFI. In addition, the CAREN will be central to the research mission of the center.

### Gait Lab

- Up to 26 cameras use infrared light to track the position of reflective markers placed on a patient’s body. Joint angles are calculated and analyzed.
- Force plates in the floor, parallel bars, and treadmill measure ground reaction forces in three directions. Using these factors, the torque that muscles or prosthetic components are producing can be determined.

- Electromyography (EMG) is used to assess the electrical activity that is given off during muscular contraction. The EMG system can detect both the timing and intensity of muscular contractions.

## OCCUPATIONAL THERAPY

Occupational Therapy focuses on restoring health and function following injury or illness. Treatment activities are designed so that patients can successfully perform occupational tasks and activities of daily living (ADL) like bathing, dressing, shopping, cooking, writing, performing household chores and everything needed to function on a day-to-day basis. Therapists and technicians provide:

- evaluation and treatment for conditions including amputation, fracture, nerve injury, and soft tissue injury.
- activities to regain range of motion, increase muscle strength, decrease pain, and facilitate their ability to perform functional tasks and to reach their maximum potential and independence.

### ADL Apartment

The purpose of the ADL apartment is to provide patients a real world environment in which to practice everyday skills. OTs use this apartment to evaluate and treat patients to make sure that patients are both physically and/or mentally capable of safely performing specific activities of daily living. The apartment has:

- a computer workstation equipped with state of the art voice recognition

software, compact keyboards, and a height adjustable desk top

- a fully equipped kitchen and bathroom
- a comfortable living room

### Firearms Training Simulator (FATS)

This state of the art system simulates the firing of different weapons in a host of settings. Using the system, patients practice different firing techniques and may qualify with weapons systems common to the military.

### Community Reintegration

The Occupational Therapy staff also coordinates a community re-integration program for the amputee patients. This program includes a wide variety of experiences outside the clinic setting. Activities such as horseback riding, paint-ball, archery, kayaking, and golf allow the patients to be challenged and have fun at the same time.

## PHYSICAL THERAPY

Physical Therapists provide evaluation, diagnosis, treatment, and rehabilitation for patients who’ve sustained trauma and/or illness. For the amputee patient, the PT team utilizes multiple interventions focusing on patients’ abilities and interests, not their disabilities. In order to accomplish “total rehabilitation”, the PT team provides:

- amputation awareness and residual limb care while still an inpatient.
- wheelchair mobility and crutch training.
- strengthening activities.
- pre-prosthetic training working on dynamic balance, proprioception, and endurance.